REMARKS/ARGUMENTS

Claims 1, 2, 4-8 and 25-27 are pending in the present application. Claims 1, 2, 4, 5, 7, 8 and 25-27 were amended, and claims 9, 10, 12-18, 20-24, 28 and 29 were canceled. No claims were added. Reconsideration of the claims is respectfully requested in view of the above amendments and the following comments.

In this Amendment, Applicants have amended claims 1, 2, 4, 5, 7, 8 and 25-27 and have canceled claims 9, 10, 12-18, 20-24, 28 and 29 from further consideration in this application. Applicants are not conceding that the subject matter encompassed by the claims prior to this Amendment is not patentable over the art cited by the Examiner. Claims 1, 2, 4, 5, 7, 8 and 25-27 were amended and claims 9, 10, 12-18, 20-24, 28 and 29 were canceled in this Amendment solely to facilitate expeditious prosecution of the remaining claims. Applicants respectfully reserve the right to pursue additional claims, including the subject matter encompassed by the claims as presented prior to this Amendment, in one or more continuing applications.

I. Specification

The Examiner has objected to the Specification for failing to provide proper antecedent basis for the claimed subject matter. The Examiner states:

> With respect to claims 9, 10, 12-16 and 28, specifically, regarding independent claim 9, the specification does not adequately provide support for the phrase "first circuitry operable ..." (line 2) and "second circuitry operable ..." In response to this objection, the applicant should clearly point out on the record what is regarded as the "data circuitry" as set forth in the specification.

Office Action dated March 5, 2008, page 2.

Claims 9, 10, 12-16, and 28 have been canceled by this Amendment. Therefore, the objection to the Specification is now moot.

II. 35 U.S.C. § 103, Obviousness

The Examiner has rejected claims 1-2, 4-6, 9, 10, 12-14, 17, 18, and 20-22 under 35 U.S.C. § 103 as being unpatentable over Brook, U.S. Patent Application Publication Number 2002/0038320 (hereinafter "Brook"), in view of Call, U.S. Patent Application Publication Number 2002/0143521 (hereinafter "Call"). This rejection is respectfully traversed.

In rejecting the claims, the Examiner states with respect to claim 1:

> Regarding claim 1, Brook teaches a method for "retrieving a data value from a character stream" by processing a text' stream and obtaining information for each character in the data (text) stream (p. 9, para. 227, lines 1-5 and 23 1, lines 1-4). Brook teaches on performing a validity test on each character in the stream but does not clearly recite the explicit use of a data structure to store the characters by location (i.e. an array). However, in related art, Call teaches on this aspect. Call teaches the use of a data structure, an array, to store and index using integer values of character data (p. 2, para. 0016). One of ordinary skill in the art at the time of the applicant's invention would have found it obvious to utilize a data structure like an array to index character values as demonstrated by Call in combination with the character validation method taught and suggested by Brook. One of ordinary skill in the art would have been motivated to utilize a data structure like an array to promote easy organization and efficient execution of processing functions by way of easy indexing of character values (see Call, p. 2, para . 0016). Brook teaches the use of the computer language XML (p. 9, para. 227).

Office Action dated March 5, 2008, page 3.

Claim 1, as amended herein, is as follows:

> 1. A computer-implemented character validation method comprising the steps of:
> receiving a character stream, wherein characters in the character stream are defined in accordance with a given markup language specification;
> retrieving a data value from the character stream; and
> determining whether a character represented by said data value is a valid character as defined in the given markup language specification, wherein determining whether said character represented by said data value is a valid character comprises:
> locating a member of a data structure, said member having a direct correspondence to said retrieved data value, and
> determining whether said retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values in said located member of said data structure.

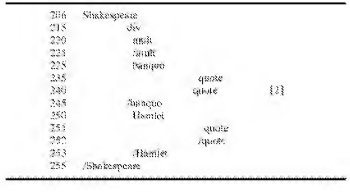
The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are… determined; differences between the prior art and the claims at issue are… ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). "Often, it will be necessary for a court to look to interrelated teachings of

multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). "*Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.* Id. (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006))." In this case, each and every feature of the presently claimed invention is not identically shown in the cited references, arranged as they are in the claims, and, accordingly, the Examiner has not established a *prima facie* case of obviousness in rejecting the claims.

With respect to claim 1, in particular, Applicants respectfully submit that the combination of Brook in view of Call fails to render the claim obvious, because neither Brook nor Call, nor the combination of Brook in view of Call teaches or suggests the feature of "determining whether a character represented by said data value is a valid character as defined in the given markup language specification, wherein determining whether said character represented by said data value is a valid character comprises: locating a member of a data structure, said member having a direct correspondence to said retrieved data value, and determining whether said retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values in said located member of said data structure."

The Office Action cites to paragraph [0227] and [0231] of Brook, which are reproduced below for the Examiner's convenience, as allegedly teaching performing a validity test on characters in a character stream.

> **[0227]** In order to better appreciate operation of the parsing process **344** as described in relation to **FIGS. 3(a)**, **3(b)** and **3(c)**, parsing of the exemplary XML fragment [1] is considered firstly in relation to the parsing process **236** described in relation to **FIG. 2.** In this case, the XML fragment [1] yields the following hierarchical representation of parsed mark-up tags in the sub-process **212**.



> **[0231]** Turning to **FIG. 3(b)**, the process **344** continues from "a" on the dashed boundary line **356** to a testing step **350** which determines whether a well-formedness check is to be performed. If such a check is to be performed, then the process **344** is directed in accordance with a "yes" arrow to "c" on the boundary line **358**. The dashed boundary line **358**, along with reference letters "c" to "f" is mirrored by a corresponding boundary line in **FIG. 3(c)**, in relation to which the process **344** is further described. If the well-formedness check is not to be performed, then the process **344** is directed in accordance with a "no" arrow to a testing step **352** which determines whether a validation check is to be performed. If the validation check is to be performed, then the process **344** is directed in accordance with a "yes" arrow to "e" on the dashed boundary line **358**. If, on the other hand, the validation check is not to be performed, then the process **344** is directed to "d" on the dashed boundary line **358**.

Paragraph [0227] of Brook merely teaches an example of a parser parsing an XML fragment. Paragraph [0231] of Brook explains that either a well-formedness check or a validation check is to be performed. In paragraphs [0213] and [0216], which are also reproduced below for the Examiner's convenience, Brook explains that both the well-formedness test and the validation test merely verify "correct syntactic placement" of the elements:

> **[0213]** After the step **212**, the process **236** is directed to a testing step **242**, which determines whether a well-formedness check is to be performed. Well-formedness checks ensure that the document meets appropriate "well-formedness constraints", as defined on page 5 of "Extensible Markup Language (XML) 1.0 (Second Edition) W3C Recommendation, Oct. 6, 2000", which is available on the Internet at http:.backslash..backslash.www.w3.o-rg.backslash.tr.backslash.2000.backslash.rec-xml-20001006.html. Well-formedness checks test the document for compliance with general structure rules, particularly whether tags in a document have been properly nested. If such a check is to be performed, then the process **236** is directed in accordance with a "yes" arrow to "a" on a dashed boundary line **246**. The dashed boundary line **246**, along with reference letters "a" to "d" is mirrored by a corresponding boundary line in **FIG. 2(b)**, in relation to which the process **236** is further described. If the well-formedness check is not to be performed, then the process **236** is directed in accordance with a "no" arrow from the testing step **242** to a testing step **244** which determines whether a "validation check" is to be performed. Validation checks involve a comparison of syntactic elements in a document against validity constraints defined in a Validation Reference Document (referred to as a VRD for the sake of brevity) such as a document type definition (DTD), as described in Section 5.1 of the aforementioned W3C Recommendation. DTDs and XML Schemas are examples of VRDs against which validation checks can be performed, however validation checks as described herein can be performed against other types of VRDs. This comparison procedure verifies correct syntactic placement of elements to a greater extent than the mere well-formedness check. If the validation check is to be performed, then the process **236** is directed in accordance with a "yes" arrow to "b" on the dashed boundary line **246**. If, on the other hand, the validation check is not to be performed, then the process **236** is directed in accordance with a "no" arrow to "c" on the dashed boundary line **246**.

> **[0216]** As noted, the validation checking step **220** involves a comparison of the identified syntactic element in the markup document being considered against a document type definition (DTD). This comparison procedure verifies correct syntactic placement of elements to a greater extent than the mere well-formedness check described in relation to the sub-process **238**.

The validation test described in Brook simply performs this "correct syntactic placement" test to a greater extent than the normal well-formedness test. Paragraph [0236] of Brook describes an example of what the validation test does beyond the normal well-formedness test. As explained in the example, the validation test not only checks to see if the tag pairs are properly, or fully, nested, but also checks to see if the nesting is legal. Thus, Brook teaches determining a proper syntactic structural placement of a tag or element within a structured document, such as an XML document.

In contradistinction, claim 1 as amended herein now clearly recites "determining whether a character represented by said data value is a valid character as defined in the given markup language specification." Determining a proper syntactic location of a tag or element in a structured document is not the same as determining whether a character is a valid character as defined in a given markup language specification, and, in fact, Brook is silent with respect to testing whether a character is a valid character according to a markup language specification. Thus, Brooks fails to teach or suggest the feature of "determining whether a character represented by said data value is a valid character as defined in the given markup language specification" as recited in claim 1.

Additionally, Brook does not teach or suggest the feature of "wherein determining whether said character represented by said data value is a valid character comprises: locating a member of a data structure, said member having a direct correspondence to said retrieved data value, and determining whether said retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values in said located member of said data structure" as also recited in claim 1.

Brook does not teach a plurality of status values. Paragraph [0237] of Brook explains that the validity test taught by Brook is performed by hashing tags and comparing the new hashes to previously generated hashes. Thus, only numbers are compared. The validation check determines if the hashes match and if the hashes are syntactically, properly located within the document structure. Thus, Brook fails teach a plurality of status values.

Therefore, for at least the reasons set forth above, Applicants respectfully submit that Brook fails to teach or suggest "determining whether a character represented by said data value is a valid character as defined in the given markup language specification, wherein determining whether said character represented by said data value is a valid character comprises: locating a member of a data structure, said member having a direct correspondence to said retrieved data value, and determining whether said retrieved data value represents a valid character within the given markup language specification according

to a logical combination of a plurality of status values in said located member of said data structure" as recited in amended claim 1.

Call does not cure the above deficiencies of Brook. Call is applied as teaching use of a data structure to store and index using integer values of a character. In particular, the Office Action acknowledges, and Applicants agree, that Brook does not teach the use of a data structure to store characters by location. However, the Office Action alleges that Call teaches this feature in paragraph [0016], which is reproduced below for the Examiner's convenience:

> **[0016]** It is a further object of the invention to store both fixed and variable length data as an addressable array of integer values organized to permit more efficient execution of processing functions of the type typically performed by database management systems.

All that the above passage of Call teaches is that fixed and variable length data is stored in an array. In paragraph [0018] Call explains that character data which represent natural language text is parsed into logical subdivisions that encapsulate the meaning of the original natural language text. These subdivisions are then replaced with a fixed length numerical integer value. As explained in paragraph [0019], the data size of each integer is smaller than the corresponding text that the integer represents. Further paragraph [0019] explains that the average English word is seven characters long plus a space, thus the integer takes up less space. Thus, Call does not teach replacing an individual character with an integer value. Rather, Call teaches replacing entire natural language words with an integer.

In contradistinction, claim 1 recites determining whether a retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values. Call teaches representing entire natural language words as a single integer and storing those integers in an array. Thus, the integer stored by Call is not for a single character, nor is the data directly related to a single character, as recited in claim 1.

Furthermore, claim 1 recites that "a plurality of status values in said member of said data structure." The Office Action alleges that Call teaches use of a data structure, and array, to store and index using integer values of character data. However, Call is silent regarding any type of validity test or a member of a data structure with "a plurality of status values." Thus, Call fails to teach or suggest "a plurality of status values in said member of said data structure."

For at least all the above reasons, neither Brook, nor Call, nor the combination of Brook in view of Call teaches or suggests "determining whether a character represented by said data value is a valid character as defined in the given markup language specification, wherein determining whether said character represented by said data value is a valid character comprises: locating a member of a data structure, said member having a direct correspondence to said retrieved data value, and determining

whether said retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values in said located member of said data structure", and claim 1 patentably distinguishes over the references in its present form.

On page 12 of the Office Action dated March 5, 2008, the Examiner responds to Applicants arguments regarding the failure of Brook to disclose determining a validity of a character represented by a data value by asserting that "Brook is relied upon for teaching validity testing in paragraph 0231 on page 9 wherein Brook teaches the parsing of a stream of characters for well-formedness which is deemed within the scope of the broadly claimed 'validity' test."

By the present Amendment, claim 1 has been amended to define the validity of a character with greater specificity to more clearly distinguish over Brook. For example, claim 1 now recites "determining whether a character represented by said data value is a valid character as defined in the given markup language specification" and "determining whether said retrieved data value represents a valid character within the given markup language specification according to a logical combination of a plurality of status values."

Claims 2 and 4-6 depend from and further restrict claim 1 and are also not obvious over Brook in view of Call, at least by virtue of their dependency. Claims 9, 10, 12-14, 17, 18 and 20-22 have been canceled and the rejection with respect to those claims is now moot.

Therefore, the rejection of claims 1-2, 4-6, 9, 10, 12-14, 17, 18, and 20-22 under 35 U.S.C. § 103 has been overcome.

III. 35 U.S.C. § 103, Obviousness

The Examiner has rejected claims 7-8, 15-16, and 23-25 under 35 U.S.C. § 103 as being unpatentable over Brook and Call in view of Zhao et al., U.S. Patent Application Publication 2002/0042707 (hereinafter "Zhao"). This rejection is respectfully traversed.

In rejecting the claims, the Examiner states:

> Regarding claims 7 and 8, Brook teaches the use of a wide range of fonts and styles but does not explicitly disclose the use of extensible markup language (XML) syntax. However Zhao teaches the analysis and format determination of extensible markup language (XML) (see fig. 6, grammar packaging). At the time of the applicant's invention, it would have been obvious to one of ordinary skill in the art to modify Brook's method to allow it to process XML documents as input, as taught by Zhao. It logically follows that the rules employed by Brook's character validation would be in accordance with extensible markup language (XML) also. The motivation for doing so would have been to be able to determine whether extensible markup language (XML) packets match the extensible markup language (XML) protocol definition at an increased speed over prior methods. Therefore it

would have been obvious to combine Brook, Call and Zhao for the benefit of increased processing speed to obtain the invention as specified in claims 7-8.

Office Action dated March 5, 2008, pp. 7-8.

Claims 7 and 8 depend from and further restrict independent claim 1. Zhao is cited as disclosing the analysis and format determination of extensible markup language, but does not supply the deficiencies in Brook and Call as described in detail above with respect to claim 1. Claims 7 and 8, accordingly, patentably distinguish over the cited art, at least by virtue of their dependency.

Independent claim 25 has been amended in a similar manner as claim 1 and patentably distinguishes over the cited art for similar reasons as discussed above with respect to claim 1, and, in addition, because the cited art does not disclose or suggest "wherein a first status value of said plurality of status values indicates whether said data value represents a valid character having a first attribute corresponding to said first status value and wherein a second status value of said plurality of status values indicates whether said data value represents a valid character having a second attribute corresponding to said second status value." Applicants respectfully disagree that any of the cited references to Brook, Call or Zhao disclose this subject matter or that such subject matter would be obvious in view of the references.

Claims 15, 16, 23 and 24 have been canceled and the rejection with respect to those claims is now moot.

Therefore, the rejection of claims 7-8, 15-16, and 23-25 under 35 U.S.C. § 103 has been overcome.

IV. 35 U.S.C. § 103, Obviousness

The Examiner has rejected claims 26-29 under 35 U.S.C. § 103 as being unpatentable over Brook, Call and Zhao in view of Jurion et al., U.S. Patent Number 6,631,501 (hereinafter "Jurion"). This rejection is respectfully traversed.

In rejecting the claims, the Examiner states:

> Regarding claims 26-29, the combination of Brook, Call and Zhao as outlined in the above rejections teaches upon the aspects of character stream parsing and performing validity tests upon the parsed characters but does not clearly teach upon the aspect wherein the parsed characters are tested to be "base" characters, "digit" characters and "extender" characters. While Brook, Call and Zhao do teach upon the usage of characters in general, nothing is explicitly recited to classify these

characters into general groups (i.e. base, digit and extender). However, in related art, Jurion teaches the automatic and replacement of characters wherein characters are tested on their validity within a group or string of characters to determine whether a character within the string is appropriate, or valid. Jurion teaches that the characters analyzed can be of a plurality of different types of characters which would implicitly include "base" characters, "digit" characters, and "extender" characters as claimed by applicant and therefore one of ordinary skill in the art at the time of the applicant's invention would have found it obvious to test the validity of characters utilizing aspects taught by Jurion, specifically the use of base, digit, and extender characters (col. 3, lines 8-18). One of ordinary skill in the art would have been motivated to utilize the teachings of Jurion in combination with the teachings of Brook, Call, and Zhao in order to check the syntactical rules of character streams correctly and efficiently as provided by Jurion as a necessary need in the art of simple character validation (see Jurion, col. 2, ll. 41-52).

Office Action dated March 5, 2008, pp. 10-11.

Claims 28 and 29 have been canceled and the rejection with respect to those claims is now moot. Claims 26 and 27 depend from and further restrict claims 25 and 1, respectively. Jurion does not supply the deficiencies in the principal references as described above. Accordingly, claims 26 and 27 patentably distinguish over the cited art in their present form, at least by virtue of their dependency. In addition, Applicants submit that the references do not disclose or suggest "said first status value indicates whether said data value is a valid base character, said second status value indicates whether said data value is a valid digit character, and a third status value indicates whether said data value is a valid extender character" as recited in claim 26 or similar language recited in claim 27; and that the claims patentably distinguish over the cited art in their own right as well as by virtue of their dependency.

Therefore, the rejection of claims 26-29 under 35 U.S.C. § 103 has been overcome.

V. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance. It is, accordingly, respectfully requested that the Examiner so find and issue a Notice of Allowance in due course.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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